

Product Specification

ROPA Remote Pumped Erbium Doped Fiber Module EDF

PN: 50-10-0040-01R

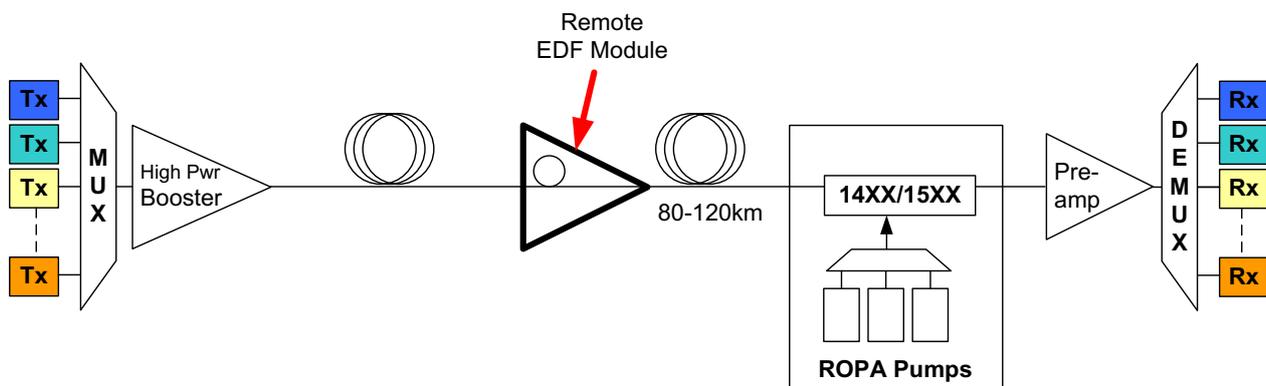
Revision: A00

Date: 01-Sep-14

Customer: General

System Application

The remote pumped EDF Module is designed to be complementary to RED-C's 3-pump and 6-pump ROPA terminal units for ultra-long single-span submarine and terrestrial applications. The module is typically placed about 80-120km from the receive terminal as shown in the Figure below:

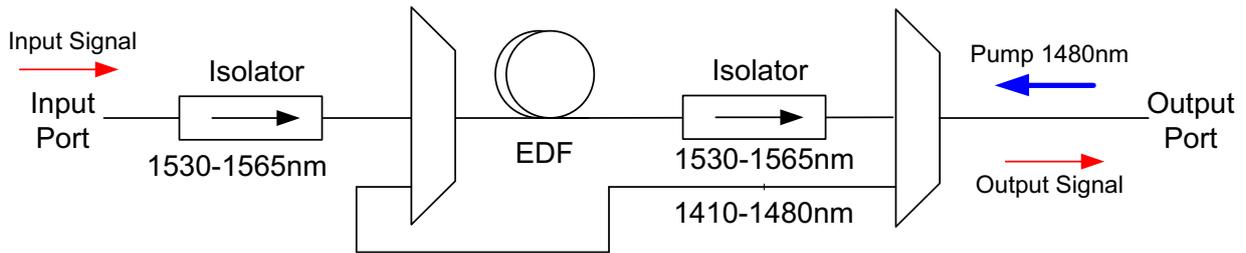


Key Features

The ROPA module provides the following key features:

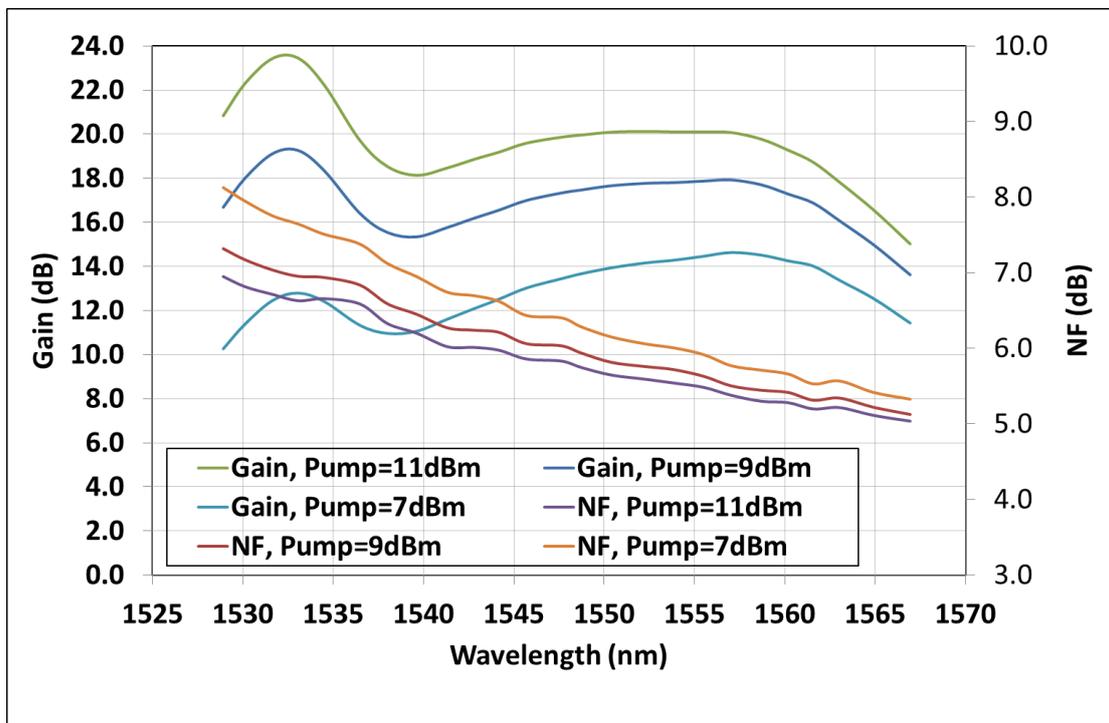
- Completely passive module that can be installed without requiring special environmental control.
- Optimized for operation with RED-C's ROPA terminal units.
- Consists of a very high efficiency and low threshold EDF.
- >15dB of signal gain with pump as low as 9dBm.
- Co-packaged with isolators to eliminate signal degradation due to back-reflection from splices and Rayleigh backscatter sourced in the link fiber.
- Optimized for lowest of NF and gain under normal field operation conditions.
- Compact mechanical design.

Block Diagram



Typical Optical Characteristics

The following Figure shows the typical gain and NF of the module for input power <-25dBm and different levels of pump power entering the module.



Optical Specifications of the Module

Specification	Unit	Min.	Typ.	Max.	Remarks
Signal Band	nm	1529		1566	Optimal performance obtained in the 1545-1563nm band
Pump wavelength	nm	1470		1490	-
Erbium fiber type		Sumitomo ER-1090			-
Erbium fiber length	m	17.5		18.5	-
Erbium fiber absorption	dB/m	3		6	-
Signal Gain	1529-1566nm	dB	15	16	Pump level >=11dBm Total Signal level <= -24dBm
Noise Figure				6.8	
Signal Gain	1545-1563nm	dB	17	18.5	
Noise Figure				5.8	

Specification		Unit	Min.	Typ.	Max.	Remarks
Signal Gain	1529-1566nm	dB	12	13.5		Pump level \geq 9dBm Total Signal level \leq -18dBm
Noise Figure				7.0	8.0	
Signal Gain	1545-1563nm	dB	13.5	15		
Noise Figure				6.0	6.8	
Signal Gain	1529-1566nm	dB	NA			Pump level \geq 7dBm Total Signal level \leq -12dBm
Noise Figure						
Signal Gain	1545-1563nm	dB	7	8.5		
Noise Figure				6.8	7.5	

Optical Ports

Connector	Color	Type	Description
IN	BLACK	LC/UPC	Input signal port
OUT	WHITE	LC/UPC	Signal output / pump input port

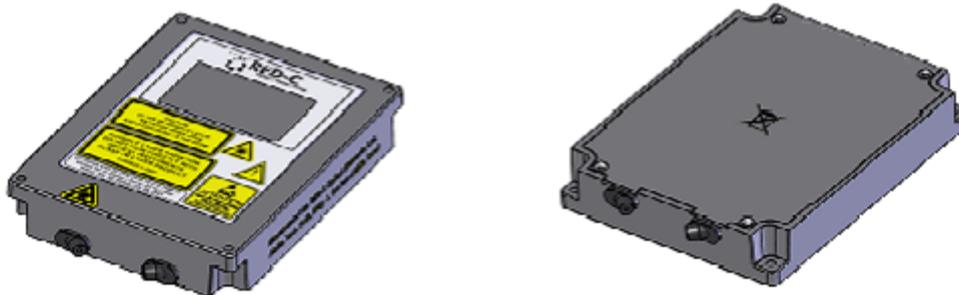
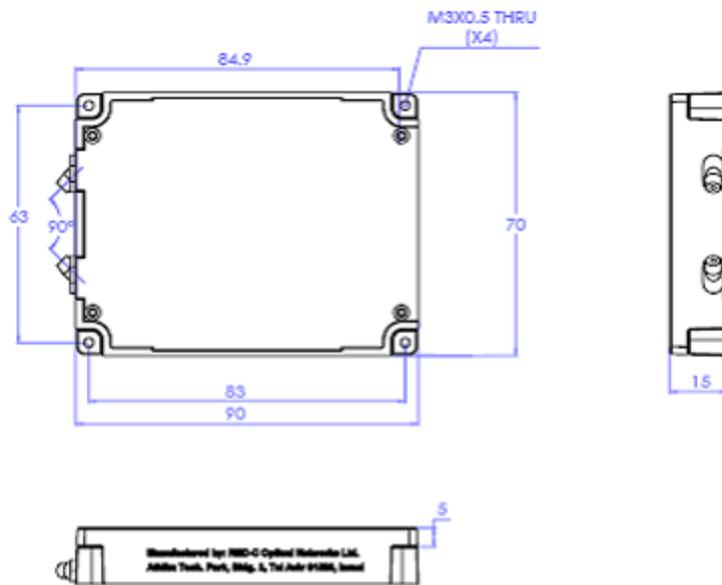
Environmental and Mechanical Specification

Note: Customized packaging options are available according to customer request

The remote EDF module is packaged in an Aluminum box with the following parameters:

Parameter	Value/Range
Physical dimensions (without Heat sink)	90x70x15 mm
Package material	AL 6061-T6
Package weight	0.14Kg
Surface roughness	N7
Coating	AMS-C-5541 CLASS 3(CLEAR).
Primer coating	Epoxy polyamide per MIL-P-53022 TYP II CLASS 1
Top coating	Polyurethane PER MIL-C-83286 COLOR RAL 9005,20-30 μ m SMOOTH.
Mounting box	4 M3 screws
Operating Temp. Storage Temp.	-20 to +70C -40 to +85C
Operating / Storage Humidity	0 – 90% RH

The mechanical layout is described in following drawing.



Ordering Information:



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Email orders to: sales@xsoptix.com
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